UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
525 NE Oregon Street
PORTLAND, OREGON 97232-2737

Refer to:
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July 23,1999

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RE: ESA Section 7 Formal Consultation on U.S. Forest Service and Bureau of Land Management Proposed Actions that May Affect Oregon Coast Coho Salmon within the Oregon Coast Range Province

Dear Messrs. Linares, Manning, and Williamson:

The National Marine Fisheries Service (NMFS) has received the following letters and biological assessments (BAs), requesting consultation on actions that may affect Oregon Coast coho salmon within the Oregon Coast Range Province:

- A June 21, 1999, letter and BA, from} Jose Linares, U.S. Forest Service (USFS), to Rick Applegate (NMFS):
- A June 16, 1999, letter and BAs, from Denis Williamson, Bureau of Land Management (BLM), to Rick Applegate (NMFS);
- a letter and BAs, from Denis Williamson (BLM) to Rick Applegate (NMFS), received by the NMFS on May 11, 1999;
- an April 22, 1999, letter and BAs, from Mark E. Lawrence (BLM), to Rick Applegate (NMFS);
- an Apri115, 1999, letter and BAs, from James R. Furnish (USFS), to Rick Applegate (NMFS); and
- a March 18,1999, letter and BAs, from Denis Williamson (BLM), to Rick Applegate (NMFS).

Table 1 provides a summary of administrative unit, project title, and disposition of each project submitted for consultation with the above correspondences. The BAs describe the environmental baseline and effects of the actions summarized in Table 1.

BACKGROUND

The objective of this biological opinion (Opinion) is to determine whether the Peach and Fiddle commercial Thinnings Project, Five Rivers Landscape Management Project, Running Bear LSR Thinning Project, Upper Wolf Timber Sale (TS), Link-N-Log TS, Point-A-Panther TS, Bear Cub TS, Ten High TS, Douglas Creek TS, and Lower Lake Creek Recreation Management Plan are likely to jeopardize the continued existence of the threatened Oregon Coast coho salmon (*Oncorhynchus kisutch)* or result in the destruction or adverse modification of their proposed critical habitat.

The Oregon Coast coho salmon (0. *kisutch)* Evolutionarily Significant Unit[1] was listed as threatened under the ESA by the NMFS on August 10, 1998 (63 FR 42587). Critical habitat for Oregon Coast coho salmon was proposed on May 10, 1999 (64 FR 24998). This consultation is undertaken pursuant to section 7(a)(2) of the Endangered Species Act (ESA) and its implementing regulations, 50 CFR § 402.

The Land and Resource Management Plan for the Siuslaw National Forest, and the Resource Management Plans for the Salem and Eugene Districts of the BLM, as amended by the April 13, 1994, Record of Decision [USDA-FS and USDI-BLM 1994; hereafter referred to as the Northwest Forest Plan (NFP)], were the subject of a formal programmatic ESA consultation/conference which concluded on March 18,1997. NMFS (1997a; hereafter referred to as the LRMP Opinion), evaluated the effects of USFS and BLM land management plans on the species considered in this Opinion, which consequently provides an important basis for many of NMFS' determinations. The LRMP Opinion was adopted as a biological opinion for Oregon Coast coho salmon with a September 29, 19981etter, from William Stelle, Jr. (NMFS), to Robert W. Williams (USFS) and Elaine Y. Zielinski (BLM).

[1] For the purposes of conservation under the Endangered Species Act, an Evolutionarily Significant Unit (ESU) is a distinct population segment that is substantially reproductively isolated from other conspecific population units and represents an important component in the evolutionary legacy of the species (Waples, 1991).

Table I. Summary and disposition of actions submitted for consultation.

Administrative Unit	Project Title	Date Submitted	Date NMFS Received	Effects Determination	Disposition
Siuslaw National Forest (NF)	Mina Bird Thin Project	4/15/99	4/16/99	NLAA	5/17/99 Concurrence Letter
	Peach and Fiddle Commercial Thinning Project			LAA	Addressed in this document
	Five Rivers Landscape Management Project	6/21/99	6/22/99	LAA	Addressed in this document
Salem Bureau of Land Management (BLM)	Glenbrook Summit Regeneration Harvest	4/22/99	4/23/99	NLAA	5/17/99 Concurrence Letter
	Running Bear LSR Thinning Project			LAA	Addressed in this document
	Tyrrell Timber Sale (TS)	3/18/99	3/22/99	LAA	3/3/99 "make effective" concurrence letter
	Tucker Creek #2 TS				
	Upper Wolf TS			LAA	Addressed in this document
	Hult View Timber Sale		5/11/99	NLAA	5/17/99 concurrence Letter
	Second Wind TS				
	Alma Over TS				
	Smith Creek Progeny Site TS				
	Link-N-Log TS			LAA	Addressed in this document
	Bear Cub				
	Ten High TS				
	Douglas Creek TS				
	Lower Lake Creek Recreation Management				
	Badger One TS	6/16/99	6/17/99	NLAA	6/24/99 concurrence letter
	B-Happy TS				
	Point-A-Panther TS			LAA	Addressed in this document

Siuslaw NF, Salem District BLM, and Eugene District BLM personnel made the effects determinations in the BAs following procedures described in NMFS (1996) and the LRMP Opinion. The effects of the individual actions proposed in the BAs were evaluated by the USFS and BLM biologists at the project scale using criteria based upon the biological requirements of Oregon Coast coho salmon and the Aquatic Conservation Strategy (ACS) objectives of the NFP.

The USFS and BLM biologists also evaluated the likely effects of the proposed actions at the watershed scale and in the long-term in the context of watershed processes. The Level-1 streamlined consultation team for the Siuslaw NF, Salem District BLM, and Eugene District BLM has defined "long-term" for ESA consultation purposes as about a decade, while short term effects would occur for a lesser period, most typically about a year. The Level-1 team for the Siuslaw NF, Salem District BLM, and Eugene District BLM met on March 24 and June 9, 1999, to review the effects determinations and documentation of ACS consistency for the proposed actions. For the Five Rivers Landscape Management Project, the District Biologist determined that the proposed action is not likely to adversely affect Oregon Coast coho salmon. However, the Level-1 team did not believe that the documentation presented in the BA was adequate to support that determination. Therefore, based on the information presented and knowledge of the project, the Level-1 team determined and concurred with a "may affect, likely to adversely affect" effect determination. The Level-1 team concurred on the effects determinations and ACS consistency analyses for all of the projects presented.

The BAs document the baseline and effects determinations at the site and fifth-field hydrologic unit code[2] watershed (hereafter referred to as fifth-field watershed) scales. In addition, the BAs provide documentation demonstrating that the projects are consistent with the ACS. Site specific baseline descriptions and effects determinations for each individual action proposed in the BAs were completed by the USFS and BLM. The documentation supporting those baselines and effects determinations at each spatial scale is included in the BA and hereby incorporated into this Opinion by reference.

This Opinion concludes that the effects of the USFS and BLM actions listed in Table 2, together with the cumulative effects and effects of the environmental baseline within the Oregon Coast Range Province, are not likely to jeopardize the continued existence of the Oregon Coast coho salmon. The NMFS concurs that implementation of the subject actions will not result in.the destruction or adverse modification of proposed critical habitat for Oregon Coast coho salmon. This opinion also authorizes incidental take of Oregon Coast coho salmon resulting from the actions in Table 2 [see Incidental Take Statement (ITS), attached].

[2] Fifth-field HUC watersheds are hierarchal subdivisions of western Oregon river subbasins that were cooperatively delineated by the USFS and BLM to facilitate watershed analysis. Fifth-field watersheds (approximately 20-200 square miles in size) provide a proper context for assessing many processes and features affecting ecosystem function.

Table 2. Proposed actions addressed in this document, its location within the Oregon Coast Range Province, and relevant watershed analysis.

Administrative Unit	Action	Fourth-Field Basin	Fifth-Field Watershed	Watershed Analysis
Siuslaw NF	Peach and Fiddle Commercial Thinnings Project	Siltcoos	Siltcoos and Tahkenitch	Coastal Lakes
	Fivers Rivers Landscape Management Project	Alsea	Five Rivers-Lobster Creek	Lobster/Five Rivers
	Running Bear LSR Thinning Project	Alsea	Upper North Fork Alsea	North Fork Alsea
	Upper Wolf Timber Sale (TS)	Siuslaw	Wolf Creek	Wolf Creek
	Link-N-Log TS	Siuslaw	Wolf Creek	Wolf Creek
	Point –A-Panther TS	Siuslaw	Wolf Creek	Wolf Creek
	Bear Cub TS	Siuslaw	Lake Creek	Lake Creek
	Ten High S	Siuslaw	Lake Creek	Lake Creek
	Lower Lake Creek Recreation Management Plan	Siuslaw	Lake Creek	Lake Creek
	Douglas Creek TS	Siuslaw	Upper Siuslaw	Siuslaw River

PROPOSED ACTIONS

The proposed actions in Table 2 are "likely to adversely affect" (LAA) Oregon Coast coho salmon within the Oregon Coast Range Province (hereafter all reference to Oregon Coast coho salmon pertains to that portion of the ESU within the Oregon Coast Range Province). The proposed actions occur within the Alsea, Siuslaw, and Siltcoos fourth-field basins. Within the Alsea River Basin, Running Bear LSR Thinning Project is proposed in the Upper North Fork Alsea fifth-field watershed and Five Rivers Landscape Management Project is proposed in the Five Rivers, Lobster Creek watershed; within the Siuslaw River basin, Link-N-Log TS, Upper Wolf TS, and Point-A-Panther TS are proposed in the Wolf Creek fifth-field watershed, Bear Cub TS, Ten High TS, and Lower Lake Creek Recreation Management Plan are proposed in the Lake Creek fifth-field watershed, and Douglas Creek TS is proposed in the Upper Siuslaw River fifth-field watershed; and within the Siltcoos Basin, Peach and Fiddle Commercial Thinnings Project is proposed within the Siltcoos and Tahkenitch fifth-field watersheds. Table 2 provides a summary of each proposed action and its location. The BAs have detailed information on each of the proposed actions, but brief summaries are provided below.

Peach and Fiddle Commercial Thinning's Project: The USFS proposes to commercially thin 962 acres to 60-90 trees per acre (tpa) within Late Successional Reserve (LSR), Matrix, and Riparian Reserve land use allocations. Four of the 34 proposed units are in the Fiddle Creek key watershed. The purpose of the thinning within LSR is to help the stand move quicker towards LSR conditions by accelerating tree growth and improving stand diversity. Thinning in the Riparian Reserves has similar goals of improving stand diversity and accelerating tree growth, but the main focus is to improve conditions for riparian dependent plant and animal species. The goal of thinning Matrix lands is to increase the value of the timber resources and provide habitat for those non-LSR dependent species. The Coastal Lakes Watershed Analysis (USDA-FS 1998) supports thinning densely stocked plantations to accelerate tree growth, increase tree species diversity , structural diversity , snags, and downed logs. About 362 acres of the commercial thinning would occur within Riparian Reserves, where minimum no-cut buffers of2-3 tree crown widths (35-50 feet) on perennial stream and the inner gorge on non-perennial streams would be maintained. Tractor logging will be conducted in portions of 10 units (82 acres) in areas with less than 30% slopes. Cable yarding Will be conducted on the remaining acres. Full suspension of logs will be required over all perennial streams, and most intermittent streams will have full suspension.

There will be a total of 8.60 miles of existing system road reopened, 0.78 miles of temporary road construction, and 0.08 miles (400 feet) of semi-permanent road construction in units 16 and 61 (non-key watershed). Within Riparian Reserves, there will be 4.72 miles of the road reopening, 0.48 miles of new temporary road and 0.08 miles of new semi-permanent road. A total of 5.16 miles of road is proposed for decommissioning, of which 0.20 miles are in a key watershed. Seven stream crossing culverts and four drainage culverts will be removed. Included in the proposed action are restoration projects that include placement of large wood fishery habitat structures in association with 10 units, course woody debris additions and snag creation in all units, 35 acres of riparian planting of conifer, 19 acres of riparian thinning,

1,000 feet of fencing to stop trespass cattle, and correction of road drainage and fish passage problems through 18 culverts. Portions of the restoration projects will be implemented in the Southwest Province portion of the Oregon Coast coho salmon ESU.

Five Rivers Landscape Managment Project: The USFS proposes to commercially thin 2,670 acres of plantations in Riparian Reserves and 560 acres in Matrix land use allocations to accelerate the development of late-successional habitat within eight non-key subwatersheds. In addition, 2,032 acres of Riparian Reserves and 334 acres of Matrix lands will be precommercially thinned. Three pathways will be implemented to determine the length of time late successional conditions will be created. One pathway will be for selected units to develop naturally with no thinning. The other two pathways will be for units to be thinned to 40-60 or 60-100 tpa. The minimum no-harvest buffers will generally include the inner gorge adjacent to streams and one or two conifer rows above the slope break. No-harvest buffers may be greater, depending on site-specific factors such as the presence or absence of conifers and slope-stability conditions. The buffers and trees retained from harvest will be adequate to maintain stream temperature, slope stability, and protect riparian vegetation. All thinning sales will require skyline cable or helicopter logging systems, and full suspension when yarding over streams. A total of 11 miles of roads will be reopened in Riparian Reserves and 5.3 miles will be reopened in Matrix lands by repairing 66 sites where a road failure has occurred. Approximately 1.2 and 0.1 miles of semi-permanent road will be constructed within Riparian Reserves and Matrix, respectively. Standard and guideline RF-2(b) (USDA-FS and USDI-BLM 1994, page C-32), which states, "completing watershed analyses (including appropriate geotechnical analyses) prior to construction of new roads or landings in Riparian Reserves," has been met by the completion of the Lobster/Five Rivers watershed analysis (USDI-BLM 1997). All road construction will be limited to stable ridge tops. Approximately 48 miles of road will be decommissioned within the 8 subwatersheds, in addition to 76 miles of road closed to vehicular traffic.

In addition, large conifers and root wads will be placed along 18 miles of stream, 1,340 acres of existing plantations will be planted with a mixture of shade-tolerant conifers and hardwoods, 200 acres of alder- or meadow-dominated riparian areas will be planted with conifers and various hardwoods, 40 acres of existing meadows and plantations in early-seral conditions will be maintained by mowing and burning, and a special use permit issued for building and maintaining a private road on a ridge in the upper Green River subwatershed to compensate for the loss of access by a valley-bottom road.

Running Bear LSR Thinnings Project: The BLM proposes to commercial thin approximately 340 acres within LSR and Riparian Reserve land use allocations. The density management of approximately 157 acres of LSR and approximately 180 acres of Riparian Reserves are intended to accelerate the structural development of these stands and to approximate the structure and function of a late-successional forest. The 35 perennial and intermittent streams within the

project area will have no-cut buffers of 25-100 feet. Units will be thinned to 38-99 tpa. Approximately 110 acres would be yarded by helicopter, 215 acres would be yarded by skyline cable, and 15 acres would be yarded by ground based equipment on slopes less than 35%. There will be 290 feet of road reconstruction or renovation, 49,910 feet of spot improvement (including creating drain dips and adding rock around 19 stream crossings or spots of weaker fill), 435 feet of permanent road construction, 515 feet of semi-permanent road construction, and 9,400 feet of road decommissioning (including pulling out 12 stream crossing culverts and 4 cross drain culverts), resulting in a net loss of 8,965 feet of road.

Upper Wolf TS: The BLM proposes to regeneration harvest 67 acres of trees 67- 78 years old, and thin 61 acres of trees less than 63 years old down to 90-120 tpa in Matrix land use allocation in a non-key watershed. Six acres of the thinning will be in Riparian Reserves. The thinning will accelerate development of larger trees. A minimum 30-foot no-cut buffer will be retained along stream channels, with directional felling away from stream channels. An additional 3 tpa in the thinning will be felled for on-site course woody debris. Yarding will be primarily by partial suspension, although tractor logging will be allowed on slopes less than 35%. A total of 5,835 feet of new road construction is proposed, with 4,175 feet of permanent rocked road and 1,660 feet of temporary road. All new road construction is on ridgetops and does not require stream crossings.

Link-N-Log TS: The BLM proposes to commercially thin 131 acres stocked with 42 year-old trees in a non-key watershed. The 216 tpa density stands will be thinned to 60-80 tpa on 95 acres and 40 tpa on 28 acres within LSR land use allocation, and 70-80 tpa on 8 acres of Riparian Reserves. The purpose of the proposed action is to accelerate the development of mature forest characteristics. A minimum 25-foot no-cut buffer will be retained along stream channels. Trees between 25 feet and lOO feet that are cut will be felled towards the stream and left in place as down woody material. One end suspension will be used to move the logs. On about 10 acres the operator has the option to use tractor logging, but no ground based yarding will be allowed in Riparian Reserves. A total of 2,725 feet of road will be reconstructed, which will cross one stream and its associated Riparian Reserves. A total of 4,225 feet of new temporary road will be constructed, all outside of Riparian Reserves. In addition, 740 feet of nearby road not part of the proposed action will be subsoiled, in addition to decommissioning another 1000-2000 feet of road in the sixth-field subwatershed.

Point-A-Panther TS: The BLM proposes to regeneration harvest 106 acres Within Matrix land in a non-key watershed. The purpose of the proposed action is to provide a sustainable supply of forest products while maintaining the health of the forest ecosystem. Full no-harvest Riparian Reserves of 200 feet on either side of non-fish bearing streams and 400 feet on either side offish bearing streams would be established. An additional 2-3 tpa within the project area would be reserved for future course woody debris. The majority of the harvest area would be cable yarded uphill with partial suspension. Approximately 9 acres in the southern half will be yarded downhill. There would be no yarding across any stream channels. The purchaser would have the option to tractor log on slopes less than 35% (approximately 19 acres). Upon completion of logging, skid trails would be subsoiled and water barred as needed. Seven landings are proposed outside Riparian Reserves. The purchaser has the option of constructing pop-up landings, which

are short (50-100 feet) extensions of road limited to slope breaks and outside Riparian Reserves. A total of5, 980 feet of semi-permanent and 775 feet of temporary road will be constructed. Most new construction is located on ridgetops and would be outside Riparian Reserves, except 100 feet located at the outer edge of the Riparian Reserve. Standard and guideline RF-2 (b) (USDA-FS and USDI-BLM 1994, page C-32), which states, "completing watershed analyses (including appropriate geotechnical analyses) prior to construction of new roads or landings in Riparian Reserves," has been met by the completion of the Wolf Creek watershed analysis (USDI-BLM 1995b). All new construction will not be hydrologically connected. Approximately 2,780 feet of road will be renovated. All semi-permanent and renovated road will be water barred and blocked between logging seasons.

Included in the proposed action are stream channel enhancement, stream channel rehabilitation, and road decommissioning. The purposes of these actions are to improve in-stream structure, restore stream channel connectivity , and reduce road density and drainage network with the watershed. Approximately 150 trees from one mile of Riparian Reserve will be felled into Wolf Creek, and approximately 30 trees along 2,000 feet of Riparian Reserve will be felled into Stream Number 6 to provide short term large woody debris. These trees will be within 25-100 feet of the stream channel.

Approximately 1,300 feet of existing road will be decommissioned by subsoiling, blocking, and planting. Two culverts will be removed, and stream channels and sides lopes restored and seeded. Approximately 3-6 trees will be felled into these streams to provide in-stream structure. Hay bales will be placed downstream prior to rehabilitation to reduce downstream turbidity and sedimentation.

Bear Cub TS: The BLM proposes to thin 56 acres (Unit One), which includes up to two acres of Riparian Reserves, of an approximately 42 year-old predominately Douglas-fir stand to a level of 90-109 tpa. Both treatments are designed to accelerate the growth of larger trees and develop more mature forest conditions. A minimum 40-foot no-cut buffer will be retained along stream channels. A cable system will be used to yard the logs, with the option of tractor logging on approximately 10-12 acres with slopes less than 35%. A 945-foot spur road will be renovated, and a new 200-foot permanent spur road will be constructed on a flat ridgetop with no hydrologic connections.

In addition, the BLM proposes to regeneration harvest 18 acres (Unit Two) of an approximately 71 year-old Douglas-fir stand in Matrix land use allocation within a non-key watershed. A 2.3 acre snag patch will be retailed in the middle of the unit. Six to eight tpa will be retained. Harvesting will utilize a cable system or a combination of cable and tractor logging on slopes less than 35% in 5-6 acres. A temporary 200-foot dirt spur road may be constructed on a ridgetop with no stream connection.

Ten High TS: The BLM proposes to commercially thin 389 acres of Matrix forest in a non-key watershed. Of this, 155 acres are included in the Density Management Study using a variety of prescriptions. Approximately 109 acres will be thinned to 80-100 tpa, 10 acres will be in patch cuts 0.25 acre or less, 6 acres will be thinned to 40 tpa, and 30 acres of Riparian Reserves thinned to 80-135 tpa. Thinning within the Riparian Reserves is designed to accelerate the growth of target trees and promote development of mature forest characteristics. No-cut buffer widths range from 10-200 feet. The remaining 234 acres will be commercially thinned to 70-90 acres, of which 33 acres are within Riparian Reserves, with a retention of 70-80 tpa and a minimum 35-foot no-cut buffer. The majority of the trees will be hauled using one-end suspension, however, tractor logging will be permitted on ridgetops with less than 35% slope. Up to 17 corridors, 12-foot wide each, will be allowed through the Riparian Reserves along 1,300 feet of first and second order stream channel to allow full suspension yarding of logs. Approximately 42,506 feet of road will be improved by re-grading, improving drainage, modification of road pitch, and rocking. Four new permanent spurs totaling 1,395 feet will be constructed. Half will be rocked. The other 700 feet may be rocked at the discretion of the contractor. These spurs will be located on rocky ridgetop ground. Two of the spurs follow existing old tractor roads. None of the spurs are on a slop or have any hydrologic connections to a stream channel.

Douglas Creek TS: The BLM proposes to commercially thin 141 acres within Matrix and Riparian Reserve land use allocations. The purpose of thinning the 130.5 acres of Matrix lands is to provide a sustainable supply of forest products while promoting late-successional characteristics on the west side of the stand and improving stand vigor to promote stand volume growth on the east side of the stand. Specific objectives are to increase diameter growth, and develop canopy layering and shade tolerant conifers on the west side. The purpose of thinning the 10.5 acres of Riparian Reserves is to hasten the development of late-successional forest structural characteristics. Specific objectives are to increase diameter growth of residual trees in the project area, increase canopy layering and shade tolerant conifers on the west side, increase the amount of course woody debris and snags, and to rehabilitate stream crossings and improve in-stream structure. Approximately 54 acres on the east side of Douglas Creek will be thinned to approximately 100 tpa. Approximately 87 acres on the west side of Douglas Creek will be thinned to approximately 50 tpa. The area will be planted with Douglas fir and shade-tolerant conifers. (western red cedar) at a density of 100 tpa. Riparian Reserves will be. thinned to the same density as the upland, with a 100-foot no-harvest buffer. Ten tpa would be left as coarse woody debris. To enhance in-stream structure, an additional 80-90 trees from the Riparian Reserve would be felled and bucked into Douglas Creek, and approximately 10-15 trees per channel will be felled into each westside tributary .Trees felled would be within 25-100 feet of the streams and most trees would be in the 18-30 inch diameter range. Yarding would be by one-end suspension cable and tractor. Ground-based yarding may be used on slopes less than 35% outside of Riparian Reserves, which encompass approximately 10-20% of the unit. Approximately 2,080 feet of semi-permanent road would be constructed on private land, and 8,153 feet of semi-permanent road would be constructed on BLM land. Approximately 3,970 feet of existing road on private land would be renovated. One newly constructed spur will cross approximately 100 feet of the upper portion of the Riparian Reserve. In addition, the end

of a landing on road 20-5-9 will be within the Riparian Reserve, about 120-150 feet away from the stream. Standard and guideline RF-2 (b){USDA-FS and USDI-BLM 1994, page C-32), which states, "completing watershed analyses (including appropriate geotechnical analyses) prior to construction of new roads or landings in Riparian Reserves," has been met by the completion of the Siuslaw watershed analysis (USDI-BLM 1996). All newly constructed roads are located on ridgetops with no stream crossings, and are not hydrologically connected.

Road number 20-5-21.1 is an abandoned road that parallels Douglas Creek and has disrupted flow to four westside tributaries within the project area. The stream crossings will be removed by a low ground pressure excavator during the Oregon Department of Fish and Wildlife preferred in-water work window. The excavator will utilize existing compacted roads and tractor trails to get to each stream crossings, and will need to traverse approximately 200 feet across ground that is not existing road or trail. Existing fill will be removed and natural drainage configurations will be reestablished. Restored sideslopes will be planted with shade tolerant conifers. This would open up approximately 1600 feet of additional rearing and spawning habitat for salmonids within three of the four tributaries.

Lower Lake Creek Recreation Management Plan: The BLM proposes to: (1) reopen and improve the parking area above Lake Creek falls; (2) reopen the powerhouse site; (3) improve spawning habitat for chinook salmon in association with a picnic area; and (4) develop an educational trail along approximately one mile of lower Fish Creek. The following are more detailed descriptions of the proposals: (1) The existing parking area is filled with landslide materials. This material will be removed during dry weather to an old quarry area approximately five miles away, over 300 feet from any stream channel. The parking area will be improved by paving the area designated for vehicle parking, and providing restrooms. A crosswalk will be established across highway 36. A walkway will be constructed behind the guard rail along Highway 36, approximately 800 feet, to the existing stairway leading to the falls area. Along the majority of the walkway the shoulder is wide enough to accommodate the walkway. In a few locations, near the parking lot and opposite the upper fishway, the shoulder will be widened using ecology blocks as a base, then the segmental wall blocks stacked on top to the design height. Excavation for the ecology blocks will be by hand. Once the blocks are set, the area behind them will be filled with common fill. (2) Reopen powerhouse site: A paved parking area would be provided where Road 16- 7-30.4 ends near the creek. A foot bridge will be built across Lake Creek at the site of the former road bridge. Construction of the bridge will require some bank excavation and use of heavy equipment. Once the bridge is in place, the back around the bridge will be stabilized. A day use picnic facility will be developed at the former powerhouse site in a former parking area. The development will include trails surfaced with crushed rock, playground equipment, and six picnic tables. Sanitary facilities will be provided. Equipment may need to cross through the creek to move materials to the site. This would occur at the same time as placement of the footbridge. The existing trail along the route of the flume pipe will be rehabilitated as a foot trail. A trail will also be developed within the picnic area with a small platform for viewing Lake Creek and spawning salmon. (3) Log and boulder weirs would be placed using heavy machinery and anchored to increase the amount and quality of chinook

salmon spawning habitat available. Coho salmon have not been observed spawning in the project area, probably because of the steeper gradient. Gravel may be added to the structure if it is determined that there will be insufficient natural deposition. Work will be done during low flows to minimize sediment. No salmonids rear in the area during low flows because of elevated stream temperatures. (4) An educational trail will be developed along approximately one mile of lower Fish Creek. One trailhead will utilize an existing older landing. At this site, some alders will be removed, parking area hardened, and sanitary facilities placed. The second trail head will utilize an existing stockpile site. The trail will follow the old Fish Creek road for most of its length. Approximately 200 meters of trail will need to be developed from the lower trailhead to the old Fish Creek road. This will entail removing some vegetation, primarily salmonberry and blackberry, leveling the ground, and possibly placing trail drainage. The closest the trail would come to the creek is about 50 feet, for a distance of about 100 feet. Vegetation between the trail and the creek is red alder and brush. Short spurs from the trail to a point closer to the stream will be provided to view spawning fish and observing the habitat improvement structures.

BIOLOGICAL INFORMATION

The biological requirements (including the elements of critical habitat) of Oregon Coast coho salmon are discussed in Attachment 1 of the LRMP Opinion. Environmental baseline conditions in the Oregon Coast Range Province are discussed in Weitkamp *et a[*. (1995), and the LRMP Opinion (pages 12-15 and 17). Cumulative effects as defined under 50 CFR § 402.02 are discussed for Oregon Coast coho salmon in the LRMP Opinion (pages 41-43). These respective analyses are incorporated herein by this reference. The NMFS is not aware of any newly available information that would materially change these previous analyses of biological requirements, environmental baseline or cumulative effects for the purpose of this Opinion. Some general biological information is provided below.

Oregon Coast coho salmon are an anadromous species, which typically have a three-year life-cycle and occur in all three subject fourth-field basins. Adults spawn in the late fall and winter, with fry emergence occurring the following spring. Juvenile coho salmon rear for about a year in natal streams and then outmigrate to the ocean as smolts in the spring. Some male coho salmon return to freshwater to spawn the fall and winter of the same year as their smolt migration, but the majority of adult Oregon Coast coho salmon do not return to spawn until having spent about 18 months in the ocean. Thus, an active Oregon Coast coho salmon stream would be used for some life history stages as rearing, feeding, spawning, and incubation habitat year-round.

Within the Siltcoos fourth-field basin, Oregon Coast coho salmon occupy 18.3 miles of the Maple Creek subwatershed, 13.0 miles of the Fiddle Creek subwatershed, 10.6 miles of the Five mile Creek subwatershed and 6.4 miles of the Bear Creek subwatershed (USDA-FS 1998). The Wolf Creek watershed has over 60 miles of anadromous fish habitat (USDI-BLM 1995b). Of the 609.5 miles of streams in the Lake Creek watershed, there are over 115 miles of anadromous fish habitat (USDI-BLM 1995a). Although the amount of anadromous fish habitat is not identified for the Upper Siuslaw River watershed, the Siuslaw River basin has approximately 265 miles of potentially fish-bearing streams (USDI-BLM 1996).

Although general information about the populations of Oregon Coast coho salmon within the Siltcoos, Tahkenitch, Upper North Fork Alsea River, Five Rivers-Lobster Creek, Wolf Creek, Lake Creek, and Upper Siuslaw River watersheds is available (e.g., those streams likely inhabited), specific information on the size and health of anadromous fish populations on a stream or watershed scale in the Oregon Coast Range Province is often lacking or incomplete. Because of the general paucity of the type of knowledge and the fact that all fish species, populations, and individuals depend on adequate habitat, the NMFS uses a habitat-based system in ESA consultation on land-management activities (Attachment I of the LRMP Opinion). The NMFS has applied the concept of properly functioning condition to assess the quality of the habitat that fish need to survive and recover. This concept is discussed in the "Evaluation of Proposed Actions" section of this Opinion.

Site-specific environmental baseline descriptions and effects determinations were made by USFS and BLM personnel for each of the proposed actions. This information is found in the Environmental Assessments (EA), W As, and the project-level (sixth-field subwatershed) checklists for documenting environmental baseline and effects of proposed actions on relevant indicators for the Oregon Coast Range Province (Checklist) which were included in the BAs. In addition, watershed-level information on Oregon Coast coho salmon habitat is provided in the EAs, WAs, and fifth-field watershed text, and ACS consistency findings. The NMFS concurred with these site-specific and watershed environmental baseline descriptions and effects determinations in the streamlined consultation process, and the NMFS considered them in addition to the broad scale analysis done for the LRMP Opinion described above.

Oregon Coast coho salmon, like other anadromous salmonids, face numerous and varied influences which affect their productivity. Their present depressed condition is the result of several long standing, human-induced factors (e.g., habitat degradation, harvest, water diversions, and artificial propagation) that exacerbate the adverse effects of natural environmental variability (drought, floods, and poor ocean conditions). NMFS (1997b) identifies and discusses the following freshwater factors that contribute to the decline of coho salmon: changes in channel morphology , changes in stream substrate, loss of in-stream roughness (structure), loss of estuarine rearing habitat, loss of wetlands, loss/degradation of riparian areas, water quality degradation; changes in flow, fish passage impediments, elimination of habitat, direct take, and cumulative effects.

CRITICAL HABITAT

Critical habitat for Oregon Coast coho salmon was proposed by the NMFS to include Oregon coastal river basins between Cape Blanco and the Columbia River. Freshwater critical habitat includes all waterways and substrates below longstanding, naturally impassable barriers and several dams that block access to former coho salmon habitats (May 10,1999,64 FR 24998). Essential features of coho salmon critical habitat include adequate (1) substrate, (2) water quality (3) water quantity, (4) water temperature, (5) water velocity, (6) cover/shelter, (7) food, (8) riparian vegetation, (9) space, and (10) safe passage conditions.

EVALUATION OF PROPOSED ACTIONS

The standards for determining jeopardy are set forth in Section 7(a)(2) of the ESA as defined by the implementing regulations (50 CFR § 402). Attachment 2 of the LRMP Opinion describes how the NMFS applies the ESA jeopardy and destruction/adverse modification of critical habitat standards to consultations on Federal land management actions in the Oregon Coast Range Province. When the NMFS issues a conference or biological opinion, it uses the best scientific and commercial data available to separately determine whether a proposed Federal action is likely to: (1) jeopardize the continued existence of a proposed, listed, or candidate species; and/or (2) destroy or adversely modify a proposed or listed species' critical habitat.

As described in Attachment 2 of the LRMP Opinion, the first steps in applying the ESA jeopardy standards are to define the biological requirements of Oregon Coast coho salmon and to describe the species' current status as reflected by the environmental baseline. In the next steps, the NMFS' jeopardy analysis considers how proposed actions are expected to directly and indirectly affect specific environmental factors that define properly functioning aquatic habitat essential for the survival and recovery of the species. This analysis is set within the dual context of the species biological requirements and the existing conditions under the environmental baseline (defined in Attachment I of the LRMP Opinion). The analysis takes into consideration an overall picture of the beneficial and detrimental activities taking place within the action area, which is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR § 402.02). If the net effect of the activities is found to jeopardize the listed species, then the NMFS must identify any reasonable and prudent alternatives to the proposed action.

Attachment 2 of the LRMP Opinion describes the criteria NMFS uses in the jeopardy analysis for USFS and BLM projects within the range of the NFP. In summary, NMFS considers two steps: (1) is the proposed project in compliance with the standard and guidelines for the relevant land allocations, and (2) is the proposed project consistent with (i.e., meets, or does not prevent attainment of) all pertinent ACS objectives. Actions meeting these conditions will result in improved habitat conditions, and thereby increase freshwater survival of Oregon Coast coho salmon. Therefore, actions undertaken by the administrative units that comply with NFP standards and guidelines and do not prevent or retard attainment of ACS objectives are not likely to jeopardize Oregon Coast coho salmon.

NMFS also uses the Matrix of Pathways and Indicators (Matrix) evaluation (NMFS 1996) in determining whether actions destroy or modify critical habitat (i.e., habitat alterations that appreciably diminish the value of critical habitat for both the survival and recovery of a listed species). Activities that would destroy or adversely modify a species' critical habitat would also likely jeopardize that species.

The development and use of the Matrix and how it addresses the biological requirements of anadromous salmonids, as discussed below, is summarized in the LRMP Opinion and NMFS (1998).

Biological Requirements

The biological requirements of Oregon Coast coho salmon are discussed in NMFS ' s coho status review (Weitcamp *et al.* 1995) and Attachment 1 of the LRMP Opinion. For this consultation, the NMFS finds that the biological requirements of Oregon Coast coho salmon are best xpressed in tenns of current population status and environmental factors that define properly functioning freshwater aquatic habitat necessary for survival and recovery of the species. The NMFS defines this properly functioning condition as the state in which all of the individual habitat factors operate together to provide a healthy aquatic ecosystem that meets the biological requirements of the fish species of interest. Individual measurable habitat factors (or indicators) have been identified (e.g., water temperature, substrate, etc.), and the "properly functioning" values for these indicators have been determined, using the best information available. These indicators, when considered together, provide an estimate of the conditions necessary for sufficient prespawning survival, egg-to-smolt survival, and upstream/downstream migration.

The NMFS has assembled a set of these indicators in the Matrix (NMFS 1996). The Matrix lists several categories or "pathways" of essential salmonid habitat, such as water quality, in-stream habitat elements, and flow/hydrology .Under these pathways are quantitative habitat indicators for which ranges of values are identified that correspond to a "properly functioning" condition, an "at risk" condition, and a "not properly functioning" condition. Because these habitat measurements are more readily available than quantitative measurements of biological variables (such as incubation success, standing crop, and growth rate), the USFS, BLM, and NMFS are able to assess the health of stream reaches or watersheds based on the condition of their component indicators. Such an assessment provides a baseline description of the health of the stream/watershed, and also allows the effects of an action (e.g., timber harvest) to be evaluated.

Properly functioning watersheds, where all of the individual factors operate together to provide healthy aquatic ecosystems, are necessary for the survival and recovery of the listed species. It follows, then that the NMFS has determined that an action which would cause the habitat indicators of a watershed to move to a degraded condition or one which further degrades a "not properly functioning" watershed is also likely to jeopardize the continued existence of the listed species.

In addition to the use of the Matrix at the watershed level to assist in making 'Jeopardy" determinations in Section 7 consultations (especially for land management agencies), the NMFS also uses the Matrix at the site or project scale (often the sixth- or seventh-field subwatershed). Assuming that a Federal agency determines that an action "may affect" a listed species, either informal or formal consultation is required. To assist in this determination, the action agency prepares a project-level Checklist.
Environmental Baseline

Current status of listed species under environmental baseline within the action are The "action area" is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved by the action" (50 CFR § 402.02). The general action areas for this Opinion can be defined as the Siltcoos, Tahkenitch, Upper North Fork Alsea River, Five Rivers-Lobster Creek, Wolf Creek, Lake Creek, and Upper Siuslaw River watersheds. As noted

above, Oregon Coast coho salmon use the action areas as rearing, feeding, spawning, and incubation habitat, as well as a migration corridor. The environmental baseline of the action areas that are rated as "at risk" or "not properly functioning" (see Checklists and text in the BAs) are likely the result of past forest management and agricultural practices, in particular, timber harvest/clearing within riparian zones, large-scale clear-cut timber harvest, road construction (especially within riparian zones), and timber yarding in riparian zones and streams.

Although the NMFS reviewed the indicators that would "maintain" or "restore" habitat as a result of each proposed action, indicators particularly at issue in this consultation are those which the proposed actions would likely degrade at the project scale. In this case, "turbidity," "substrate/sediment," "streambank condition, " "road density and location, " and "stream influence zone" were determined to be degraded at the project scale by at least one of the proposed actions.

Based on the best information available on the current status of Oregon Coast coho salmon (Attachment 1 of the LRMP Opinion), the NMFS assumptions given the information available regarding population status, population trends, and genetics (Attachment 2 of the LRMP Opinion), and the relatively poor environmental baseline conditions within the action areas (see Checklists in the BAs and August 10, 1998, 63 FR 42587), the NMFS finds that the environmental baseline does not currently meet all of the biological requirements for the survival and recovery of the listed species within the action areas. Actions that do not retard attainment of properly functioning aquatic conditions, when added to the environmental baseline, are necessary to "meet the needs of the species for survival and recovery.

ANALYSIS OF EFFECTS

Effects of Proposed Actions

At a regional landscape scale, the effects of the actions were considered in the development of the ACS {FEMAT 1993, chapter V), and the NFP standards and guidelines (USDA-FS and USDI-BLM 1994).

The BA and supporting information documents compliance for each of the actions with the following critical components of the NFP: standards and guidelines, watershed analysis, watershed restoration, land allocations, and the ACS objectives. Upon review, the Level-1 team concurs that the proposed projects are consistent with these components relevant to listed, proposed, and candidate salmonids. In addition, the Level-1 team concurs that each action is consistent with the reasonable and prudent measures and terms and conditions of the LRMP Opinion.

The effects determinations in the BAs were made using a method for evaluating current aquatic conditions (the environmental baseline) and predicting effects of actions on them. This process is described in NMFS (1996) .This assessment method (in which Checklists are assembled by action agency biologists) was designed for the purpose of providing adequate information in a tabular form for the NMFS to determine the effects of actions subject to consultation. Additionally, a detailed discussion of the potential effects of timber harvest and associated activities on salmonid habitat is presented in NMFS (1997c), and is incorporated herein by this reference. Similarly, a general discussion of the potential effects of associated road construction on salmonids and their habitat is provided in the LRMP Opinion.

The effects of the actions proposed in the BA were evaluated by the Level-1 team at project and watershed scales using the Checklist and based upon the biological requirements of Oregon Coast coho salmon.

The USFS and BLM use the Matrix and Checklist to make project-level effects determinations; i.e., whether an action is "may affect, not likely to adversely affect" (NLAA) or "may affect, likely to adversely affect" (LAA) the listed species (in this case, Oregon Coast coho salmon). If a project was determined to LAA a listed species, then, based on the ') jeopardy" criteria described in Attachment 2 of the LRMP Opinion, the USFS and BLM need to determine whether the project, when combined with the environmental baseline for the watershed over the long-term, is consistent with the ACS of the NFP. This "consistency" is condensed to a two-part test in Attachment 2 of the LRMP Opinion (page 14): Is the proposed action in compliance with the standards and guidelines (S&G) for the relevant land use allocation, and is the proposed project consistent with (i.e., meets, or does not prevent attainment of) all pertinent ACS objectives. This determination is made with the assistance of analysis of each action at the watershed scale.

Project-Level Effects

The Checklists provided by the USFS and BLM for the effects of actions are expressed in terms of the expected effect (restore, maintain, or degrade) on aquatic habitat factors in the project areas/sixth-field subwatersheds affected by the proposed actions. The results of the completed Checklists for the proposed actions provide a basis for determining the effects of the actions on the environmental baseline in the project areas. The project-Level determinations are the effects likely to occur within the drainages and subwatersheds where the actions will occur. The assessment is purposefully conservative in order to account for potential incidental take of individual fish.

In this consultation, the USFS and BLM provided a Checklist for each sixth-field subwatershed affected by each of the proposed actions. In general, the USFS and BLM determined the actions would not degrade a majority of the habitat indicators at the project level, chiefly because of the maintenance (through the use of full-width Riparian Reserve buffers) and/or enhancement (through thinning from below in young Riparian Reserve stands to enhance growth of remaining trees) of the riparian zones. Also, the USFS and BLM believe that timber harvest would be performed in ways which would have little or no effect on the hydrologic characteristics of the sites. Thinning results in relatively small effects on canopy closure, and ground based yarding is limited to gentle slopes. No new road construction will require stream crossings. Regeneration harvest will result in the loss of canopy closure, but maintenance of Riparian Reserves will minimize potential adverse effects. Degradation of habitat indicators as a result of implementation of the proposed actions are primarily short term; maintenance or restoration of the indicators is expected in the long term.

Peach and Fiddle Commercial Thinnings Project: The USFS found that at the project level, the "turbidity ," "substrate/sediment," "streambank condition," and "road density and location," indicators would be degraded due to the proposed action, and all other indicators would be maintained or restored. The USFS attributes the short term degrade for "turbidity" in the Maple, Schultz, Bear, and Fivemile sixth-field subwatersheds due to road decommissions, in-stream structure placement, and possibly some road haul. Turbidity is not expected to be affected by the timber harvest or road construction. In the long term, turbidity levels should decrease since stream courses will be protected and potential road drainage problems will be remedied. .
In the Peach and Fiddle Commercial Thinnings Project, as well as the other timber sales in this Opinion, Riparian Reserve buffers and/or location of new road construction on midslope or ridgetop with no stream crossings should prevent most (or all) of the ground-disturbing activities from transmitting substantial amounts of sediment into stream channels. Short term degradation of "sediment/turbidity" may occur from road haul and installation of large wood structures in the Maple, Schultz, Bear, and Fivemile sixth-field subwatersheds, and from road decommissioning in the Maple and Fivemile subwatersheds. Substrate collected in association with the in-stream structures will improve the substrate composition over the current situation. Storm proofing all reopened roads will lessen the potential for large sediment increases from a road failure associated with) large storm events.

"Streambank condition" may be degraded in the short term as a result of log structure installation in portions of Schultz, Maple, Bear, and Fivemile subwatersheds. These streambanks are expected to return to and maintain existing conditions in the long term.

There will be 8.60 miles of existing system road reopened, and 0.86 miles of new road construction, of which 0.08 miles (400 feet) are semi-permanent and the rest are temporary. The 0.08 miles of semi-permanent road construction caused the short term degrade for "road density and location. " All roads constructed will be closed after harvest. A total of 5.16 miles of system road will be decommissioned in the Maple, Fiddle, Bear, and Fivemile subwatersheds as a result of the proposed timber sale. Therefore, a net loss of roads will occur, and some of the roads that were closed in previous years will be closed using better drainage techniques (i.e., waterbarring) after the timber sale.

Tree thinning should not have any direct effects on streams, because the no-cut buffer should be able to filter sediment, as well as maintain shade and bank stability .The long-term effect of woody debris should be positive, because the thinning would leave the largest trees and allow these trees to grow more quickly to eventually produce longer and more massive pieces of large woody debris.

Because of the presence of the "degrade" checkmarks at the project scale, the USFS determined that the Peach and Fiddle Commercial Thinnings Project is likely to adversely affect Oregon Coast coho salmon. The NMFS concurs with the USFS on this project-level effects determination.

Five Rivers Landscape Management Project: The District Biologist for the Siuslaw NF determined that Five Rivers Landscape Management Project was NLAA Oregon Coast coho salmon. Appendix A to the project BA provides rationale for the effect determination. However, upon review and discussion, the Level-1 team determined that there was not adequate documentation in the BA to support an NLAA effect determination. The Level-1 team found that at the project level, the "turbidity ," "substrate/sediment," and "streambank condition" indicators would be degraded due to the proposed action and may have more than a negligible potential to result in take of Oregon Coastcoho salmon. .This was reflected in the June 21, 1999, cover letter from Jose Linares, USFS, to Rick Applegate, NMFS. All other indicators would be maintained or restored as a result of the action. The Level-1 team attributes the short term degrade for "turbidity" and "substrate/sediment" in the Cascade Creek, Upper Buck Creek, Crab Creek, Green River, Lower Five Rivers, Middle Five Rivers, and Upper Five Rivers sixth-field subwatersheds due to road decommissions. Turbidity is not expected to be affected by the timber harvest or road construction. In the long term, turbidity levels should decrease as stream crossing culverts will be removed and potential road drainage problems remedied. The 48 miles of road decommissioning proposed will result in reduced road density in the affected subwatersheds and road related sediment input as a result of those roads.

"Streambank condition" may be degraded in the short term as a result of log structure installation in portions of Upper Buck, Crab Creek, Green River, Middle Five Rivers, and Upper Five Rivers subwatersheds. These streambanks are expected to return to, and maintain, existing conditions in the long term.

Because of the presence of the "degrade" checkrnarks at the project scale, the Level-l team determined that Five Rivers Landscape Management Project is likely to adversely affect Oregon Coast coho salmon. The NMFS concurs with the Level-l team on this project-level effects determination.

Running Bear LSR Thinning Project: The BLM found that at the project level, the "turbidity," "substrate/sediment," and "road density and location "indicators would be degraded due to the proposed action, and all other indicators would be maintained or restored. The BLM attributes the short term degrade check mark for "turbidity" and "substrate/sediment" to a potential increase in stream turbidity due to thinning within the Riparian Reserves, road construction, and road decommissioning. This potential increase in turbidity will not alter the sediment regime in local streams. In the long term, road decommissioning, restoration of natural stream bed, and better drainage of the existing road system will result in the long term restoration if the indicator. A total of 1.78 miles of road (new, reconstructed, and some existing road) would be decommissioned, and another 16,900 feet of road would be blocked or gated. Decommissioning will entail pulling out 12 stream crossings and 4 cross drain culverts, restoring stream bed channels, installing drain dips, and ripping all semi-permanent roads.

A total of 515 feet of semi-permanent road and 435 feet of permanent road will result in a short term degradation of the "road density and location" indicator. Nine-thousand four-hundred feet of road will be decommissioned upon completion of the proposed action, including 435 feet of the semi-permanent road, resulting in a net reduction of 8,965 feet of road.

Because of the presence of the "degrade" checkrnarks at the project scale, the BLM determined that Running Bear LSR Thinning Project is likely to adversely affect Oregon Coast coho salmon. The NMFS concurs with the BLM on this project-level effects determination.

Upper WolfTS: The BLM found that at the project level, the "road density and location" indicator would be degraded due to the proposed action, and all other indicators would be maintained or restored. The BLM attributes the "degrade" check mark for "road density and location" to an increase in road density as a result of the proposed action. A total of 5,835 feet of new road will be constructed, of which 1,660 feet will be temporary and 4,175 feet will be permanent rocked road. The permanent road is needed for future management, including site preparation and planting. All of the new road construction is on ridgetops, and will not require any stream crossings.

Because of the presence of the "degrade" checkmark at the project scale, the BLM determined that Upper WolfTS is likely to adversely affect Oregon Coast coho salmon. The NMFS concurs with the BLM on this project-level effects determination.

Link-N-Log TS: The BLM found that at the project level, the "sediment" and "road density and .location" indicators would be degraded due to the proposed action, and all other indicators would be maintained or restored. The BLM attributes the short term degrade for "sediment" to a transitory increase in silt production as a result of a culvert replacement, its removal after project completion, the reconstruction and closing of an existing road, and the construction and removal of new roads. The low gradients and extensive vegetation along the roads and streams will limit the potential for any silt generated to actually enter the stream. Since the road will be closed and rehabilitated, the proposed action will result in a long term decrease in potential sediment reaching the stream.

The short term degradation of the "road density and location" indicator was attributed to the short term increase in road density as a result of new temporary road construction. A total of 4,225 feet of new temporary dirt road will be built, but will be subsoiled at the end of the same season they are constructed. In addition, 740 feet of nearby road not part of the proposed action will be subsoiled. In addition, the BLM will decommission another 1,000~2,000 feet of road in the sixth-field subwatershed.

Because of the presence of the "degrade" checkmarks at the project scale, the BLM determined that Link-N-Log TS is likely to adversely affect Oregon Coast coho salmon. The NMFS concurs with the BLM on this project-level effects determination.

Point-A-Panther TS: The BLM found that at the project level, the "substrate/sediment" and "road density and location" indicators would be degraded due to the proposed action, and all other indicators would be maintained or restored. The BLM attributes the short term degrade for "substrate/sediment" to a low potential for sediment production associated with the two culvert removals and rehabilitation of their stream channels and streambanks in conjunction with the decommissioning. This potential erosion/sedimentation is not expected to last more than one year, until the area revegetates. Straw bales would be placed downstream during instream activities, work would occur during low flow conditions, and the areas would be seeded upon completion of the work.

The short term degradation of the "road density and location" indicator was attributed to the short term increase in road density as a result of 6,75 5 feet of new road construction (775 feet temporary, 5,980 feet semi-permanent). Most of the road construction is located on ridgetops, and would be outside Riparian Reserves, except for 100 feet located on the outer edge of a Riparian Reserve. None of the road construction are hydrologically connected. Between logging seasons, all semi-permanent and renovated roads would be water barred and blocked. Upon completion of operations, all newly constructed and renovated roads would be blocked and subsoiled, resulting in a net reduction of 3,205 feet of road in the watershed.

Because o(the presence of the "degrade" checkmarks at the project scale, the BLM determined that Point-A-Panther TS is likely to adversely affect Oregon Coast coho salmon. The NMFS concurs with the BLM on this project-level effects determination.

Bear Cub TS: The BLM found that at the project level, the "sediment" and "road density and location" indicators would be degraded due to the proposed action, and all other indicators would be maintained or restored. The BLM attributes the short term degrade for "sediment" to a transitory increase in sediment production as a result of road rehabilitation and logging. However, it is not expected to reach Fish Creek in sufficient quantities to affect fish habitat. The small amount of flow in the first order intermittent stream, lack of stream crossings on the roads, and the retention of vegetation along all streams is expected to limit the potential for any sediment to enter the stream flowing out of the unit and into Fish Creek (seventh-field subwatershed) or Lake Creek (fifth-field watershed).

A 200-foot rocked spur road will be constructed in Unit One, and left as a permanent road for future management access, thereby resulting in the "degrade" check mark for the "road density and location" indicator. This spur road is located on a flat ridge top with no hydrologic connections. Approximately 200 feet of dirt spur may need to be constructed in Unit Two. This dirt spur would be on the ridge top, with no stream connection, and would be subsoiled after project completion.
Because of the presence of the "degrade" checkmarks at the project scale, the BLM determined that Bear Cub TS is likely to adversely affect Oregon Coast coho salmon. The NMFS concurs with the BLM on this project-level effects determination.

Ten High TS: The BLM found that at the project level, the "sediment," "road density and location," and "stream influence zone" indicators would be degraded due to the proposed action, and all other indicators would be maintained or restored. The BLM attributes the short term degrade for "sediment" as a result of road rehabilitation, especially at road crossings. At the same time, the road rehabilitation of 42,500 feet of existing road is expected to decrease the potential for sediment production by up-grading currently unmaintained road. While the overall. sediment production from road work is not expected to measurably change the level of sediment reaching Upper Lake Creek, there is a potential that sediment levels may show a transitory increase as a result of the proposed action.

Road density will increase as a result of the proposed action. In addition to the 42,500 feet of road improvement, most of which are midslope or ridgetop roads, 1,395 feet of new permanent road will be constructed. Rocking will be required on half. The other 700 feet may be rocked at the discretion of the contractor. The new road is in four short spurs on rocky ridgetop ground. Two of the spurs follow existing old tractor roads. None of the spurs are on a slope and do not have any hydrologic connections to a stream channel.

Within the stream influence zone, thinning along Neil Creek as part of the proposed action will accelerate the growth of larger trees as a future source of woody material. Up to 17 12-foot wide corridors through the riparian area are authorized along 1,300 feet of first and second order ephemeral headwater streams. The corridors will create openings in the riparian area. These are not expected to alter either flows or water quality downstream since they are above the zone of perennial flow. The canopy openings are expected to close in one to two years as the canopy of remaining trees grows to fill the openings. As a result of the thinnings in the proposed action and previous thinnings downstream along Neil Creek, it is anticipated that larger trees suitable for a source of large wood will develop more quickly.

Because of the presence of the "degrade" checkmarks at the project scale, the BLM determined that Ten High TS is likely to adversely affect Oregon Coast coho salmon. The NMFS concurs with the BLM on this project-level effects determination.

Lower Lake Creek Recreation Management Plan: The BLM found that at the project level, the "sediment," and "streambank condition" indicators would be degraded due to the proposed action, and all other indicators would be maintained or restored. The BLM attributes the "degrade" check mark for "sediment" to an increase in sediment production at the lower parking area during the removal of power plant debris, installation of the footbridge, chinook spawning habitat structures, and movement of materials across the creek to develop the picnic area. The transport of materials will involve moving heavy equipment through the stream, including some grading of the streambank. The streambanks do not store a lot of silt, so the amount of silt produced is expected to be small and transient in nature and will occur during low flow periods when no salmonids are present. Stabilization of stream banks following project work by placement of boulders and/or logs will reduce the potential for future sediment production.

The streambank along Highway 36 near the upstream parking area has exhibited some erosion in recent years mostly due to recreational visitors who slide down and destabilize the bank. Creating the walkway will probably help reduce future erosion potential. Some erosion has occurred near the lower parking area as a result of removal of the bridge and the movement of equipment across ~e creek to burn the old caretaker house. Some increase in erosion of streambanks will occur as & result of project work, but it is expected that the b~ will be stabilized as a result of the proposed project work, contributing to some reduction in sediment production.

Because of the presence of the "degrade" checkmarks at the project scale, the BLM determined that Lower Lake Creek Recreation Management Plan is likely to adversely affect Oregon Coast coho salmon. The NMFS concurs with the BLM on this project-level effects determination.

Douglas Creek TS: The BLM found that at the project level, the "turbidity ," substrate/sediment," and "road density and location" indicators would be degraded due to the proposed action, and all other indicators would be maintained or restored. The BLM attributes the "degrade" check marks for "turbidity" and "substrate/sediment" to a possible short term

increase in erosion/sedimentation from the use of an excavator to remove 4 stream crossings. In the long term, impacts to erosion/sedimentation are likely to be reduced by this action. Removing the existing fill and reestablishing the natural drainage configurations would reduce the potential for further fill failure at these stream crossings and would also open up some of these channels for fish passage. Several measures would be implemented to minimize short-term impacts from the use of the equipment, including: Performing the work in August during low flow conditions and during the ODFW preferred in-water work window; utilizing cut riparian trees for temporary placement in the channels for movement of equipment across partially failed channels; placing removed fill material out of the road prism and away from stream channels; and use of low ground pressure tracked excavator during low soil moisture conditions to minimize ground disturbance. Sedimentation is not expected during yarding activities because of retention of no-cut, no-yard areas as around all of the streams and wetlands.

Approximately 2,080 feet of semi-permanent road would be constructed on privately-owned land, and 8,153 feet of semi-permanent road would be constructed on BLM-managed land. Approximately 677 feet of an existing BLM-managed road (Spur F) would be renovated, then decommissioned at the end of the timber sale. All semi-permanent roads would be natural surface, built to minimum width standards (14-foot subgrade), with no ditches, reduced clearing limits, outsloped where possible, and located on ridge tops with no hydrologic connections. No yarding or log hauling would be conducted on the natural surfaced spurs or roads during periods of wet weather. All semi-permanent roads would be waterbarred and blocked between logging seasons. As a result of the proposed action, temporary increase in road density would occur during the 3-year timber contract period, but a small net decrease of 677 feet of road will occur within the watershed upon completion of the project.

Because of the presence of the "degrade" checkmarks at the project scale, the BLM determined that Douglas Creek TS is likely to adversely affect Oregon Coast coho salmon. The NMFS concurs with the BLM on this project-level effects determination.

Project Level Effect Conclusions

The BAs indicate that watershed analysis findings have been incorporated into the project planning for all key watersheds and many non-key watersheds. The NMFS has considered the watershed analyses in analyzing the effects of the actions. The Level-1 team has found that the proposed projects are consistent with the critical components of the NFP relevant to Oregon Coast coho salmon, and that the projects include appropriate measures to minimize adverse effects.

Site-specific analyses indicate that any adverse impacts from the proposed actions are expected to be very minimal and limited in extent and duration. The NMFS finds that temporary adverse effects to Oregon Coast coho salmon and their habitat may occur with the proposed projects.

The spatial and temporal extent of potential adverse effects which may lead to incidental take is described for each project in the BAs. However, in each case, these adverse impacts will not retard nor prevent attainment of properly functioning habitat indicators important to Oregon Coast coho salmon at the project scale.

Watershed-Level Effects. In the BAs, the USFS and BLM provided watershed-scale analyses for each of the indicators that would be degraded as a result of the proposed actions, along with ACS consistency reviews for each proposed action. The watershed-scale analyses evaluated the effects of the proposed action on habitat indicators in the fifth-field watershed scale relative to the long-term environmental baseline. That is, while many actions have short-term, small scale adverse effects, including those that may be beneficial in the long-term, only those actions with adverse affects to the environmental baseline that are significant at the watershed scale over a long period would receive a "degrade" checkmark. It is important to realize that both active and passive restoration activities contribute to the environmental baseline. In particular, the passive restoration that will occur over the long-term (at least a decade, see above), especially in Riparian Reserves, is a principal component of the watershed recovery aspect of the NFP. The role of Riparian Reserves, LSRs, etc., in protection and restoration of watersheds is described in the LRMP Opinion and the NFP .

The ACS consistency reviews included descriptions of how the proposed actions comply with the nine ACS objectives. Because there is strong correspondence between the habitat indicators of the Matrix and the ACS objectives, it is likely that if habitat indicators in the watershed level Checklist are maintained or restored by an action, then compliance with ACS objectives is also achieved. Therefore, in the descriptions below, typically only those habitat indicators which were determined to "degrade" or "restore" at the sixth-field subwatershed are discussed. Whether discussed below or not, information on all of the habitat indicators and ACS objectives were provided in the USFS' and BLM's BAs, and were considered in our analysis.

Siltcoos and Tahkenitch watersheds: Peach and Fiddle Commercial Thinnings Project is proposed for the Siltcoos and Tahkenitch watersheds. Within the Siltcoos watershed, Fiddle Creek subwatershed is a key watershed under the NFP. Schultz, Maple, Bear, and Fivemile subwatersheds are non-key watersheds. The thinning would affect 2.9% (962 acres within the 33,674 acres) of the Schultz, Maple, Fiddle, Bear, and Fivemile subwatersheds. For this action, the USFS determined that all of the, habitat indicators would be maintained at the watershed scale over the long term, despite the project-level "degrades" which were recorded in the Schultz, Maple, Bear, and Fivemile subwatershed Checklists.

As noted under "Project-Level Effects," above; the "turbidity" and "substrate/sediment" indicators were thought to be degraded due to road decommissioning, in-stream structure placement, and possibly some road haul. Turbidity and substrate/sediment are not expected to be affected by the timber harvest or road construction. Stormproofing all reopened roads will lessen the potential for large sediment increases from a road failure associated with large storm events. In the long term, turbidity levels should decrease since stream courses will be protected and potential road drainage problems will be remedied.

"Streambank condition" may be degraded in the short term as a result of log structure installation in portions of Schultz, Maple, Bear, and Fivemile subwatersheds. These streambanks are expected to return to and maintain existing conditions in the long term.

The "road density and location" indicator will be degraded by the construction of 0.08 miles of semi-permanent road. None of the temporary or semi-permanent road construction will be in the Fiddle Creek key watershed. Upon completion of the proposed action, a total of 5.16 miles of system road will be decommissioned in the Maple, Fiddle, Bear, and Fivemile subwatersheds. In addition, some of the roads that were closed in previous years will be closed using better drainage techniques (i.e., waterbarring) after the timber sale.

Based on the ACS consistency review for Peach and Fiddle Commercial Thinnings Project, it appears that all of the relevant NFP S&Gs would be observed. Compliance with the nine ACS objectives is also adequately described by the USFS.

Five Rivers-Lobster Creek watershed: Five Rivers Landscape Management Project is proposed for the Five Rivers/Lobster watershed. All of the affected subwatersheds within the Five Rivers/Lobster watershed are non-key watersheds. The commercial thinning would affect 8.7% (3,230 acres within the 37,000 acres) of the Cascade Creek, Lower Buck Creek, Upper Buck Creek, Crab Creek, Green River, Lower Five Rivers, Middle Five Rivers, and Upper Five Rivers subwatersheds. For this action, the Level-1 team and USFS determined that all of the habitat indicators would be maintained at the watershed scale over the long term, despite the Project level "degrades" which were documented in the Cascade Creek, Upper Buck Creek, Crab Creek, Green River, Lower Five Rivers, Middle Five Rivers, and Upper Five Rivers subwatersheds.

As noted under "Project-Level Effects," above, the "turbidity" and "substrate/sediment" indicators were thought to be degraded due to road decommissioning. Turbidity and substrate/sediment are not expected to be affected by the timber harvest or road construction. Stormproofing all reopened roads will lessen the potential for large sediment increases from a road failure associated with large storm events. In the long term, turbidity levels should decrease since stream courses will be protected: and potential road drainage problems will be remedied. The District Biologist provided rationale in Appendix A of the BA for the NLAA effect determination. This rationale included an analysis of fine sediment and turbidity contribution in a worst case scenario, that is, removing all of the 31 culverts and associated fill in one section of the proposed decommissioning of Road 3231 along the Green River subwatershed. The Level-1 team felt that this analysis was more appropriate to analyze effects of the action at the watershed scale, rather than the project or site scale.

"Streambank condition" may be degraded in the short term as a result of log structure installation in portions of Upper Buck, Crab Creek, Green River, Middle Five Rivers, and Upper Five Rivers subwatersheds. These streambanks are expected to return to, and maintain, existing conditions in the long term.

Given the rationale presented in Appendix A, and the Level-1 team's conservative effect determination at the project scale, the Level-1 team does not expect the short term increases in turbidity , fine sediment, and bank instability at the subwatershed level to degrade existing conditions at the watershed scale. Based on the ACS consistency review for Five Rivers Landscape Management Project, it appears that all of the relevant NFP S&Gs would be observed. Compliance with the nine ACS objectives is also adequately described by the USFS.

Upper North Fork Alsea watershed: Running Bear LSR Thinning Project is proposed for the Upper North Fork Alsea River watershed, which is a non-key watershed under the NFP. For this action, the BLM determined that all of the habitat indicators would be maintained at the watershed scale, despite the project-level "degrade" and several "restores" which were recorded in the project area Checklist. As noted under "Project-Level Effects," above, the "turbidity" and "substrate/sediment" indicators were thought to be degraded due to thinning within the Riparian Reserves, road construction, and road decommissioning. In the long-term, road decommissioning, restoration of natural stream bed, and better drainage of the existing road system will result in the long term restoration if the indicator. On the watershed scale, however, the short term degrade from potential fine sediment production was thought to be inconsequential. The potential increase in sediment delivery is expected to be short term and may affect local streams within the project area. The short term input of sediment will not affect anadromous fish or fish habitat. Over the long term, aquatic and riparian dependent species would benefit from the restoration efforts associated with this project, i.e., road decommissioning and better drainage of the existing road network.

The "road density and location" indicator will be degraded by the construction of 515 feet of semi-permanent road and 435 feet of permanent road. In the long term, a total of 9,400 feet of road (new, reconstructed, and some existing road} would be decommissioned, including 435 feet of the semi-permanent road, resulting in a net reduction of 8,965 feet of road in the watershed. In addition, another 16,900 feet of road would be blocked or gated.

Based on the ACS consistency review for Running Bear LSR Thinnings Project, it appears that all of the relevant S&Gs would be observed. Compliance with the nine ACS objectives is also adequately described by the BLM.

Wolf Creek watershed: Upper Wolf TS, Link-N-Log TS, and Point-A-Panther TS are proposed for the Wolf Creek watershed, which is a non-key watershed under the NFP. For these actions, the BLM determined that all of the habitat indicators would be maintained or restored at the watershed scale, despite the project-level "degrades" which were recorded in the Swamp Creek, Swing Log Creek, Cabin Creek and Wolf Point subwatersheds. As noted under "Project-Level Effects," above, the "sediment" and "road density and location" indicators were thought to be degraded as a result of the proposed actions.

Short term sediment was expected to increase as a result of implementing Link-N-Log TS and Point-A-Panther TS. For Link-N-Log TS, the short term degrade for "sediment" is the result of a culvert replacement, its removal after project completion, the reconstruction and closing of an existing road, and the construction and removal of new roads. The low gradients and extensive vegetation along the roads and streams will limit the potential for any silt generated to actually enter the stream. Since the road will be closed and rehabilitated, the proposed action will result in a long term decrease in potential sediment reaching the stream. For Point-A-Panther TS, the short term degrade for "substrate/sediment" is the result of a low potential for sediment production associated with the two culvert removals and rehabilitation of their stream channels and streambanks in conjunction with the decommissioning. This potential erosion/sedimentation is not expected to last more than one year, until the area revegetates. Straw bales would be placed downstream during in-stream activities, work would occur during low flow conditions, and the areas would be seeded upon completion of the work. On the watershed scale, however, the short term degrade from potential sediment production as a result of implementing both actions was thought to be inconsequential

Road density will increase in the short term as a result of implementing Upper Wolf TS, Link-N-Log TS, and Point-A-Panther TS. For Upper Wolf TS, a total of 5,835 feet of new road will be constructed, of which 1,660 feet will be temporary and 4,175 feet will be permanent rocked road. All of the new road construction is on ridgetops, and will not require any stream crossings. For Link-N-Log TS, a total of 4,225 feet of new temporary dirt road will be built, but it will be subsoiled at the end of the same season it is constructed. In addition, 740 feet of nearby road, not part of the proposed action, will be subsoiled. The BLM will also decommission another 1,000-2,000 feet of road in the sixth.field subwatershed. For Point-A-Panther TS, a total of 6,755 feet of new road will be constructed, of which 775 feet will be temporary and 5,980 feet will be semi-permanent. Most of the road construction are located on ridgetops, and would be outside Riparian Reserves, except for 100 feet located on the outer edge of a Riparian Reserve. None of the road construction are hydrologically connected. Upon completion of Point-A-Panther TS, there will be a net reduction of 3,205 feet of road in the watershed. On the watershed scale, there will be a net reduction of 770-1770 feet of road upon completion of the three timber sales and decommissionings described in the BAs.
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Based on the ACS consistency review for Upper Wolf TS, Link-N-Log Ts, and Point-A-Panther TS, it appears that all of the relevant S&Gs would be observed. Compliance with the nine ACS objectives is also adequately described by the BLM.

Lake Creek watershed: Bear Cub TS, Ten High TS, and Lower Lake Creek Recreation Management Plan are proposed for the Lake Creek watershed, which is a non-key watershed under the NFP. For this action, the BLM determined that all of the habitat indicators would be maintained at the watershed scale over the long term, despite the project-level "degrades" which were recorded in the Fish Creek, Upper Lake Creek, and Lake Creek subwatershed Checklists. As noted under "Project-Level Effects," above, the "sediment," "road density and location,"

"stream influence zone," and "streambank condition" indicators were thought to be degraded as a result of the proposed actions.

Short term sediment increase is expected as a result of all three timber sales in the Lake Creek watershed. For Bear Cub TS, the short term transitory increase in sediment production may result from road rehabilitation and logging. However, it is not expected to affect fish habitat in Fish Creek because of the small amount of flow in the first order intermittent stream, lack of stream crossings on the roads, and the retention of vegetation along all streams. For Ten High TS the short term sediment is attributed to the road rehabilitation, especially at road crossings. However, at the same time, the road rehabilitation of 42,500 feet of existing road is expected to decrease the potential for sediment production by up-grading currently unmaintained road. There may be a potential that sediment levels may show a transitory increase as a result of the proposed action. However, the overall sediment production from road work is not expected to measurable change the level of sediment reaching Upper Lake Creek. For the Lower Lake Creek Recreation Management Plan, there may be a short term increase in sediment production during the removal of power plant debris, installation of the footbridge, chinook spawning habitat structures, and movement of materials across the creek to develop the picnic area. The transport of materials will involve moving heavy equipment through the stream, including some grading of the streambank. The streambanks do not store a lot of silt, so the amount of silt produced is expected to be small and transient in nature and will occur during low flow periods when no salmonids are present. Stabilization of stream banks following project work by placement of boulders and/or logs will reduce the potential for future sediment production. On the watershed scale, the short term degrade from potential sediment production as a result of implementing the three timber sales was thought to be inconsequential

Bear Cub TS and Ten High TS will result in an increase in road density in the Lake Creek watershed. For Bear Cub TS, a 200-foot permanent spur road will be constructed. For Ten High TS, 1,395 feet of permanent road will be constructed, with rocking required on half. The other 700 feet may be rocked at the discretion of the contractor. Although there will be a net increase of 1,595 feet of road in the watershed, all of the permanent road construction will be on ridge top locations with no hydrologic connections to stream channels

For Ten High TS, the stream influence zone will be degraded in the short term by creating up to 17 corridors through the riparian area along 1300 feet of first and second order ephemeral headwater streams. These corridors are not expected to alter either flows or water quality downstream since they are above the zone of perennial flow. The canopy openings are expected to close in one to two years as the canopies of the remaining trees grow to fill the openings. The thinning along Neil Creek as part of the proposed action will accelerate the growth of larger trees as a future source of woody material, and therefore, restore the stream influence zone. On the watershed scale, the short term degradation of the stream influence zone as a result of implementing Ten High TS was thought to be inconsequential based on the location of the canopy openings in ephemeral headwater streams and neither flows nor water quality downstream being altered.

The "streambank condition" is expected to be degraded in the short term for Lower Lake Creek Recreation Management Plan. Some increase in erosion of streambanks will occur as a result of project work, including placement for footbridge and movement of equipment across the creek, but it is expected that the banks will be stabilized as a result of the proposed project work, contributing to some reduction in sediment production. Creating the walkway will probably help reduce future erosion potential and stabilize the banks. On the watershed scale, the short term degradation of streambank condition as a result of implementing the Lower Lake Creek Recreation Management Plan was thought to be inconsequential.

Based on the ACS consistency review for Bear Cub TS, Ten High TS, and Lower Lake Creek Recreation Management Plan, it appears that all of the relevant S&Gs would be observed. Compliance with the nine ACS objectives is also adequately described by the BLM.

Upper Siuslaw watershed: Douglas Creek TS is proposed for the Upper Siuslaw watershed, which is a non-key watershed under the NFP. For this action, the BLM determined that all of the habitat indicators would be maintained at the watershed scale over the long term, despite the project-level "degrades" which were recorded in the Douglas Creek subwatershed Checklist. As noted under "Project-Level Effects," above, the "turbidity ," "substrate/sediment," "road density and location," indicators were thought to be degraded as a result of the proposed action. Sedimentation is not expected during yarding activities because of retention of no-cut, no-yard areas around all of the streams and wetlands. There may be a possible short .term increase in erosion/sedimentation from the use of an excavator to remove four stream crossings. In the long term, impacts to erosion/sedimentation are likely to be reduced by this action. Removing the existing fill and reestablishing the natural drainage configurations would reduce the potential for further fill failure at these stream crossings and would also open up some of these channels for fish passage. On the watershed scale, the short term degradation of turbidity and substrate/sediment as a result of implementing Douglas Creek TS was thought to be inconsequential.

There will be a short term increase in road density, as approximately 2,080 feet of semi-permanent road would be constructed on privately-owned land, and 8,153 feet of semi-permanent road would be constructed on BLM-managed land. All new road construction will be located on ridge tops with no hydrologic connections. Approximately 677 feet of an existing BLM-managed road (Spur F) would be renovated, then decommissioned at the end of the timber sale, resulting in a small net decrease in road density within the watershed upon completion of the project.

Based on the ACS consistency review for Douglas Creek TS, it appears that all of the relevant S&Gs would be observed. Compliance with the nine ACS objectives is also adequately described by the BLM.

Effects Summary . The NMFS has considered the applicability of the project and watershed scale effect analyses to each of the proposed actions identified in the BAs and in this Opinion.

The NMFS is not aware of any other special characteristics of the particular actions that would cause greater or materially different effects on Oregon Coast coho salmon and their habitat than is discussed in the project and watershed scale effect analyses. Similarly, the NMFS is not aware of any newly available information that would materially change the project and watershed scale effect analyses. In that substantial portions of all of the watersheds discussed in this Opinion are privately-owned, the NMFS assumes that the cumulative effects of non-Federal land management practices will continue at similar intensities as in recent years (pages 41-42 in the LRMP Opinion).

The effects of the proposed actions on Oregon Coast coho salmon and their habitat are presented in the BAs prepared by the USFS and BLM (specifically in the project and watershed-level Checklists and text, ACS Consistency Reviews, watershed analyses and the environmental assessments). The NMFS finds those descriptions to be adequate for this analysis. Based on this information, the NMFS does not believe these actions will likely result in more effects than expected or considered in the LRMP Opinion. In particular, the USFS and BLM determined, and the NMFS concurred, that relevant NFP S&Gs would be followed, and that ACS objectives would be met at the watershed scale and in the long term when the effects of the proposed actions are combined with the environmental baseline. These ACS consistency determinations documented the USFS and BLM findings that, despite their proposed actions, watershed habitat indicators would be maintained or restored over the long-term.

The NMFS expects that ACS objectives which may be affected by the subject actions will be met for the following reasons: (1) Potential sediment input from the small amount of proposed temporary, semi-permanent, and permanent road construction will be minimized by construction on ridgetops or stable locations, no stream crossings, and implementation of Best Management Practices (BMPs); (2) potential sediment input from proposed road maintenance, improvement, renovation, storm-proofing, decommissioning, and obliteration will also be minimized by implementation of appropriate BMPs, and the long-term effects of these actions should be beneficial because of lessened sediment and hydrologic effects from existing roads; (3) thinning within Riparian Reserves will allow the remaining trees to attain late successional characteristics, including height and mass, more quickly; in the long-term, this should facilitate the production of superior sources of large woody debris for streams in the sale areas, otherwise, no timber harvest will occur in Riparian Reserves; (4) ground compacting activity (partial suspension and tractor yarding) will be mitigated through ripping and water-barring of skid trails, and none of the yarding activity (except for that associated with riparian thinning) will occur in Riparian Reserves; and (5) the amount of canopy cover removed in the timber sales would be small compared to the passive restoration which will occur in the watersheds over the long-term, and should not impair recovery of the watersheds. Despite the minor, short-term adverse effects, these actions maintain or restore essential habitat functions, and will not impede recovery of salmonid habitat, a long-term goal of the NFP.

Cumulative Effects

Cumulative effects (as defined in 50 CFR § 402.02) in the Siltcoos, Alsea, and Siuslaw basins are discussed on pages 41-43 of,the LRMP Opinion. These respective analyses of the biological requirements, environmental baseline or cumulative effects described above are incorporated herein by this reference. The NMFS is not aware of any newly available information that would materially change these previous analyses. The proposed rule for listing Oregon Coast coho salmon (July 25,1995,60 FR 38011) and final rule for listing Southern Oregon/Northern California coho salmon (May 6, 1997,62 FR 24588) discuss the influences of state and private actions on this species and their survival.

Watershed analyses from the action area indicate conditions on private land are often an important influence on watershed processes and salmonid habitat. Management practices on these lands likely have a disproportionate influence because many low gradient, valley bottom reaches that historically provided juvenile coho overwinter habitat are privately owned.

SECTION 7(a)(2) DETERMINATIONS

The NMFS concludes that, when the effects of these proposed site specific actions are added to the environmental baseline and cumulative effects occurring in the relevant action areas, they are not likely to jeopardize the continued existence of Oregon Coast coho salmon.

In reaching these conclusions, the NMFS has utilized the best scientific and commercial data available as documented herein and by the BA and documents incorporated by reference. Based upon the BA and Level-l team review, the NMFS concurs that the proposed projects are consistent with the NFP and its associated components (i.e., the ACS objectives, standards and guidelines, watershed analysis, watershed restoration, and land allocations).

Site-specific analyses indicate that any adverse impacts from the proposed actions are expected to be of limited extent and duration. The NMFS finds that temporary adverse effects to Oregon Coast coho salmon and their habitat may occur with the proposed projects. However, in each case, these adverse impacts will not substantively retard nor prevent attainment of properly functioning habitat indicators important to Oregon Coast coho salmon at the project scale. At the watershed scale, the net effect of the proposed actions maintains and restores watershed habitat indicators and ecological processes that define the biological requirements of Oregon Coast coho salmon.

Therefore, the NMFS concludes that when the effects of these proposed actions are added to the environmental baseline and cumulative effects occurring in the relevant actions areas, they are not likely to jeopardize the continued existence of Oregon Coast coho salmon. In addition, the NMFS concludes that the proposed actions will not result in the destruction or adverse modification of proposed critical habitat for Oregon Coast coho salmon.

REINITIATION OF CONSULTATION

Reinitiation of consultation is required if discretionary Federal involvement over the action has been retained or authorized and: (I) The amount or extent of taking specified in the Incidental Take Statement below, is exceeded; (2) the action is modified in a way that causes an effect on the listed species that was not previously considered in the BA and the biological opinion; (3) new information or project monitoring reveals effects of the action that may affect listed species in way not previously considered; or (4) a new species is listed or critical habitat is designated that may be: affected by the action (50 CFR § 402.16). The LRMP Opinion lists examples of situations or findings requiring reinitiation of consultation.

INCIDENTAL TAKE STATEMENT

Effects resulting from road construction, road maintenance, road renovation, hauling, and road and skid trail decommissioning (e.g., sedimentation) are expected to be the primary source of incidental take associated with the proposed actions covered by this Opinion. Because of the limited amount of new road construction and location of the road, and implementation of appropriate mitigation measures for the other road-related activities, sediment impacts are expected to be minimized. Long-term sediment inputs should be reduced through continued road decommissioning or repair of high risk sites. Effects of timber harvesting in Riparian Reserves are also expected to be minimized because of location, landform, and harvest method. No-cut buffers (of varying width, based on site characteristics) should reduce or eliminate stream sedimentation, and would maintain shade and bank stability, and most trees (including the largest) would be retained, which would provide short-term large woody debris, and accelerate development of superior large woody debris in the future. The NMFS expects that the incidental take associated with the other effects (discussed in NMFS 1997c) of the subject timber sales and the Lower Lake Creek Recreation Management Plan will also be minimal.

Adverse effects resulting from management actions such as these are largely unquantifiable in the short-term and may not be measurable as long-term effects on the species' habitat or population levels. Therefore, even though the NMFS expects some low level of incidental take to occur due to these actions, the best scientific and commercial data available are not sufficient to enable the NMFS to estimate a specific amount of incidental take to the species themselves.

The incidental take statement in the LRMP Opinion provides reasonable and prudent measures and terms and conditions to avoid or minimize the take of listed salmonids from actions beneficial to anadromous salmonids (in-stream fish habitat enhancement and restoration, culvert upgrades, and road decommissioning), and road construction that may be applied to site specific operations if appropriate. According to the procedural expectations of the LRMP Opinion, the USFS and BLM Level-1 teams discussed the subject actions on the Siuslaw NF and Salem and Eugene BLM Districts in meetings in Corvallis and Salem, Oregon on March 24 and June 9, 1999, respectively. The Level-1 teams found that the subject actions are consistent with the NFP's S&G's, as well as with the NMFS' criteria evaluating the ACS objectives pertinent to Oregon Coast coho salmon and therefore found that all reasonable and prudent measures and corresponding terms and conditions in the LRMP Opinion are appropriate for the actions addressed in this Opinion.

For the actions not covered by the LRMP Opinion (timber harvest and miscellaneous land management actions) the Level-1 team found that incidental take of anadromous salmonids resulting from these actions has been adequately minimized by project design. Thus, no reasonable and prudent measures in addition to project requirements are necessary in this Opinion for these actions.

The NMFS hereby apply the findings, reasonable and prudent measures and terms and conditions set forth in the Incidental Take Statement of the LRMP Opinion to these actions. Therefore, the NMFS further authorizes such minimal incidental take provided the USFS~ BLM~ and their applicants comply with those measures terms and conditions.

Questions regarding consultation on these actions should be directed to Garwin Yip, of my staff, at (503) 230-5419.

Sincerely,

William Stelle, Jr.
Regional Administrator

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